

Middle Atlantic states.—From 16° at Cape May, New Jersey, on the 2d, to 32° at Williamsport, Pennsylvania, on the 14th.

South Atlantic states.—From 16° at Portsmouth, North Carolina, on the 17th and 18th, to 26° at Atlanta, Georgia, on the 1st.

Florida peninsula.—From 16° at Key West on the 22d, to 27° at Sanford on the 21st.

Eastern Gulf.—From 15° at Pensacola, Florida, on the 21st, to 27° at Mobile, Alabama, on the 22d.

Western Gulf.—From 14° at Galveston, Texas, on the 3d, to 34° at Fort Smith, Arkansas, on the 11th.

Ohio valley and Tennessee.—From 24° at Cincinnati, Ohio, on the 2d, to 32° at Louisville, Kentucky, on the 2d.

Lower lakes.—From 26° at Toledo, Ohio, on the 2d, to 37° at Oswego, New York, on the 2d.

Upper lakes.—From 22° at Chicago, Illinois, on the 5th, to 34° at Marquette, Michigan, on the 8th.

Extreme northwest.—From 32° at Bismarck, Dakota, on the 13th and 14th, to 43° at Fort Buford, Dakota, on the 30th.

Upper Mississippi valley.—From 24° at Cairo, Illinois, on the 21st, to 32° at Saint Paul, Minnesota, on the 1st.

Missouri valley.—From 27° at Omaha, Nebraska, on the 15th, to 40° at Fort Bennett, Dakota, on the 13th.

Northern slope.—From 31° at North Platte, Nebraska, on the 14th, to 43° at Fort Shaw, Montana, on the 25th and 26th; 43° at Billings, Montana, on the 24th; and 43° at Fort Washakie, Wyoming, on the 4th.

Middle slope.—From 22° on the summit of Pike's Peak, Colorado, on the 4th, to 40° at West Las Animas, Colorado, on the 26th.

Southern slope.—From 33° at Fort Concho, Texas, on the 11th, to 34° at Coleman City, on the 8th and 18th.

Southern plateau.—From 33° at Fort Grant, Arizona, on the 14th, to 54° at Fort Apache, Arizona, on the 18th.

Middle plateau.—From 35° at Pioche, Nevada, on the 9th, and at Salt Lake City, Utah, on the 26th, to 39° at Winnemucca, Nevada, on the 10th.

Northern plateau.—From 39° at Fort Missoula, Montana, on the 13th, to 40° at Lewiston, Idaho, on the 24th, and at Spokane Falls, Washington Territory, on the 38th.

North Pacific.—From 33° at Portland, Oregon, on the 18th, to 36° at Roseburg, Oregon, on the 18th.

Middle Pacific.—From 27° at Cape Mendicino, California, on the 9th, to 36° at Sacramento, California, on the 28th and 29th.

South Pacific.—From 27° at San Diego, California on the 4th, to 44° at Los Angeles, California, on the 25th.

FROSTS.

Frosts occurred in the various states and territories, as follows:

Colorado.—Denver, 13th; on the summit of Pikes Peak, 1st, 7th, 8th, 9th.

Dakota.—Bismarck 2d; Fort Buford, 2d; Tobacco Garden, 2d.

Illinois.—Chicago, 14th.

Indiana.—Lafayette, 14th; Logansport, 14th, 15th.

Iowa.—Dubuque, 14th.

Massachusetts.—Westborough, 4th.

Michigan.—Alpena, 1st; East Tawas, 1st; Grand Haven, 1st, 14th; Ione, 1st; Kalamazoo, 1st; Lausling, 13th; Litchfield, 2d; Port Huron, 14th; Swartz Creek, 1st.

Minnesota.—Moorhead.—23d; Saint Vincent, 23d.

Montana.—Fort Ellis, 12th; Fort Assinniboine, 1st; New Chicago, 12th.

Nevada.—Carson City, 15th.

New Hampshire.—On the summit of Mount Washington, 1st, 2d, 3d, 14th, 15th, 24th, 26th, 30th.

New Mexico.—Santa Fé, 9th.

New York.—Albany, 1st: Frost this morning on the lowlands in this vicinity caused considerable damage to plants. Factoryville, 2d; Kiantone, 22d.

Ohio.—College Hill, 1st; Ruggles, 1st; Toledo, 1st; Wauseon, 1st, 14th.

Pennsylvania.—Blooming Grove, 2d; Dyberry, 2d, Wellsboro', 1st, 2d.

Vermont.—Woodstock, 2d.

Virginia.—Marion, 1st.

Wyoming.—Cheyenne, 9th, 13th; Fort Washakie, 1st, 3d, 4th.

ICE.

The following instances of ice formation have been reported: Swartz creek, Michigan, 13th; Tobacco Garden, Dakota, 2d, one-fourth inch in thickness.

PRECIPITATION.

[Expressed in inches.]

The distribution of rainfall over the United States and Canada, for the month of June, 1883, as determined from reports from more than six hundred stations, is exhibited on chart iv.

The general distribution of rainfall during the month of June, and the districts of maximum departures from the June normal of each year since 1874, are as follows:

Districts.	Maximum departures.	Year.	Remarks.
Minnesota.....	+ 4.50	1874...	Deficient in the Ohio and Missouri valleys, middle and south Atlantic states, and lower lake region; excessive in the Saint Lawrence valley, New England, Gulf states, upper Mississippi valley, upper lake region, Minnesota, and on the Pacific coast.
East Gulf.....	+ 1.15		
Ohio valley.....	- 1.00		
Missouri valley.....	+ 5.03	1875...	Deficient in the Saint Lawrence valley, upper lakes, middle Atlantic and Gulf states; excessive in New England, lower lakes, Ohio, upper Mississippi, and Missouri valleys, and on the Pacific coast. At Omaha, Nebraska, 5.02 inches fell in eight hours on the 17th.
Upper Mississippi valley.....	+ 2.25		
East Gulf.....	- 3.20		
West Gulf.....	- 1.65	1876...	Excessive on the Pacific coast, in all districts east of the Mississippi river except in the lower lake region and in New England; deficient in Minnesota, Missouri valley, and west Gulf states.
South Atlantic states.....	+ 4.80		
Upper lakes.....	+ 1.35		
Minnesota.....	- 1.95	1877...	Small deficiencies in the Gulf states, Saint Lawrence valley, and in California; above the average in all other districts, the excesses being very large from the Missouri valley to the Atlantic coast.
Upper Missouri valley.....	- 1.50		
New England.....	- 1.70		
Tennessee.....	+ 5.00	1878...	Excessive along the Atlantic and Gulf, in the upper Missouri valley, and upper lake region; deficient on the Pacific coast, in the lower lake region, Tennessee, lower Missouri, upper Mississippi, and Ohio valleys; normal in Minnesota.
South Atlantic states.....	+ 4.90		
Missouri valley.....	+ 3.30		
Saint Lawrence valley.....	- 0.30	1879...	Excessive in the Missouri valley, lower lake region, New England, and Saint Lawrence valley; deficient in all other districts, except slightly above the average in the middle Atlantic states.
West Gulf.....	+ 2.14		
East Gulf.....	+ 1.52		
Portland, Oregon.....	- 2.14	1880...	Excessive in Minnesota, lake region, Ohio valley, west Gulf states, and north Pacific coast region; deficient in the east Gulf states, along the Atlantic coast, in the Missouri valley, and in California; normal in the upper Mississippi valley.
Tennessee.....	- 2.79		
South Atlantic states.....	- 1.68		
East Gulf.....	- 1.58	1881...	Deficient in the Southern states, lower Missouri valley, Minnesota, and upper lake region; excessive in the upper Missouri and upper Mississippi valleys, lower lake region, New England, middle Atlantic states, northern and middle Pacific coast regions; normal in the Ohio valley and southern California.
Saint Lawrence valley.....	+ 2.26		
New England.....	+ 1.48		
Lower Missouri valley.....	+ 1.30	1882...	Deficient in Tennessee, in all the states bordering on the Atlantic ocean and Gulf of Mexico, except Florida; also deficient in the middle and south Pacific coast regions; excessive over the interior districts and Florida.
Lower Missouri valley.....	- 3.02		
South Atlantic states.....	- 2.78		
New England.....	- 2.01	1883...	
Minnesota.....	+ 2.40		
West Gulf.....	+ 1.52		
Upper lakes.....	+ 1.49	1884...	
West Gulf.....	- 3.06		
South Atlantic states.....	- 2.40		
New England.....	+ 1.76	1885...	
Middle Atlantic states.....	+ 1.43		
East Gulf.....	+ 1.40		
West Gulf.....	- 1.90	1886...	
East Gulf.....	- 1.53		
Middle Atlantic states.....	- 1.01		
Upper Mississippi valley.....	+ 1.90	1887...	
Upper lake region.....	+ 1.39		
Missouri valley.....	+ 1.35		

In New England, Florida, the Ohio valley, Tennessee, extreme northwest, southern slope, and west of the Rocky mountains, the rainfall is below the June average. The most marked deficiencies occur in the extreme northwest, southern slope, and north Pacific coast region, where they are 1.60, 1.56, and 1.46, respectively. In the middle and south Atlantic states, Gulf states, lake region, upper Mississippi valley, northern and middle slopes, the rainfall is above the average. Large excesses are reported from the Missouri valley, and middle and south Atlantic states. The heaviest precipitation of the month occurred in the Missouri valley. At Omaha, the monthly rain-

fall was 10.84, or an excess of 4.22 over the average of June for eleven years at that station. Voluntary observers in southeastern Nebraska and northwestern Missouri, report monthly rainfalls of from 10.00 to 17.00.

In the first column of the following table is given the average rainfall for June in the various districts for several years; in the second column is given the average for June, 1883; and the third column shows the excess or deficiency of June, 1883, as compared with the average of previous years:

Average precipitation for June, 1883.

Districts.	Average for June. Signal-Service observa- tions.		Comparison of June, 1883, with the average for several years.
	For several years.	For 1883.	
	<i>Inches.</i>	<i>Inches.</i>	<i>Inches.</i>
New England.....	3.60	3.36	0.24 deficiency.
Middle Atlantic states.....	3.52	5.22	1.70 excess.
South Atlantic states.....	4.57	6.49	1.92 excess.
Florida peninsula.....	5.70	4.80	0.90 deficiency.
East Gulf.....	4.29	4.91	0.62 excess.
West Gulf.....	3.37	3.73	0.36 excess.
Tennessee.....	4.34	3.49	0.85 deficiency.
Ohio valley.....	4.64	4.21	0.43 deficiency.
Lower lakes.....	3.26	4.04	0.78 excess.
Upper lakes.....	4.47	5.38	0.91 excess.
Extreme northwest.....	4.10	2.50	1.60 deficiency.
Upper Mississippi valley.....	5.82	5.98	0.16 excess.
Missouri valley.....	5.06	7.98	2.92 excess.
Northern slope.....	2.53	3.43	0.90 excess.
Middle slope.....	2.01	2.27	0.26 excess.
Southern slope.....	3.26	1.70	1.56 deficiency.
Southern plateau.....	0.40	0.03	0.37 deficiency.
North Pacific coast.....	1.50	0.04	1.46 deficiency.
Middle Pacific coast.....	0.18	0.00	0.18 deficiency.
South Pacific coast.....	0.02	0.04	0.02 excess.
Mount Washington, N. H.....	8.53	11.30	2.77 excess.
Pike's Peak, Col.....	1.94	1.76	0.18 deficiency.
Salt Lake City, Utah.....	0.75	0.33	0.42 deficiency.

DEVIATIONS FROM AVERAGE PRECIPITATION.

The departures exhibited by the reports from the regular Signal-Service stations are shown in the table of average precipitation for June, 1883. Voluntary observers report the following notes in connection with this subject:

Illinois.—Anna, Union county: monthly rainfall, 8.21, is 2.80 above the June average of the last eight years.

Riley, McHenry county: monthly rainfall, 3.92, is 0.19 below the June average of the last twenty-two years.

Indiana.—Wabash, Wabash county: monthly rainfall, 4.86, is 0.03 below the June average of the last seven years. The total rainfall for the six months ending June 30, 1883, is 27.58, or 7.30 above the average of the corresponding months of the last seven years.

Vevay, Switzerland county: monthly rainfall, 4.17, is 0.80 below the June average at this place.

Logansport, Cass county: monthly rainfall, 5.60, is 1.78 above the June average of the last twenty-four years.

Kansas.—Lawrence, Douglas county: monthly rainfall, 7.73, is 2.80 above the June average of the last fifteen years. During that period the largest June rainfall, 12.11, occurred in 1876; the smallest, 1.30, occurred in 1870.

Yates Centre, Woodson county: monthly rainfall, 5.19, is 0.10 below the June average of the last three years.

Wellington, Sumner county: monthly rainfall, 5.34, is 1.14 above the June average of the four preceding years.

Maine.—Gardiner, Kennebec county: monthly rainfall, 4.87, is 1.60 above the June average of the last forty-seven years.

Maryland.—Fallston, Harford county: monthly rainfall, 10.21, is 6.58 above the June average of the last twelve years, and is the largest June rainfall of that period; the smallest, 1.05 occurred in 1873.

Missouri.—See report of Professor Nipher, Director of the "Missouri Weather Service," under "notes and extracts."

New Hampshire.—Antrim, Hillsborough county: monthly rainfall, 2.65, is 1.44 below the June average of the last ten years.

New York.—North Volney, Oswego county: monthly rainfall, 4.55, is 1.25 above the June average of the last eleven

years. The largest June rainfall of that period, 5.55, occurred in 1874; the smallest, 2.00, occurred in 1873.

Palermo, Oswego county: monthly rainfall, 4.21, is 0.84 above the June average of the last thirty years. The largest June rainfall of that period, 8.80, occurred in 1865; the smallest, 0.70, occurred in 1864 and 1870.

Ohio.—Wauseon, Fulton county: monthly rainfall, 4.73, is 0.10 above the June average of the last eleven years. The largest June rainfall of that period, 8.43, occurred in 1881; the smallest, 1.43, occurred in 1872.

Pennsylvania.—Dyberry, Wayne county: monthly rainfall, 5.38, is 2.20 above the June average of the last twelve years, and is the largest June rainfall of that period; the smallest, 1.13, occurred in 1873.

Vermont.—Woodstock, Windsor county: monthly rainfall, 5.03, is 0.54 below the June average of the last sixteen years.

Virginia.—Variety Mills, Nelson county: monthly rainfall, 5.74, is 3.46 above the June average of the last five years, and is the largest June rainfall of that period; the smallest, 1.46, occurred in 1880.

West Virginia.—Helvetia, Randolph county: monthly rainfall, 6.55, is 0.56 above the June average of the last seven years.

HAIL.

Hailstorms occurred in the various states during the month, as follows:

Colorado.—Fort Collins, Larimer county: A severe hailstorm occurred in this vicinity on the 16th, totally destroying many fields of growing grain. Much damage was done by lightning during the storm.

Illinois.—Centralia, Marion county: Much damage was done to the growing crops west of this place by the hailstorm of the 15th. Some of the hailstones measured two inches in diameter.

Iowa.—Essex, Page county: This place was visited by a violent hailstorm on the evening of the 26th. The storm lasted for about thirty minutes, during which nearly all the window-glass in the village was broken. The hailstones accumulated to depths of from four to five feet on the windward sides of buildings. Farmers from surrounding localities report that the growing crop was entirely destroyed and that fields of grain were badly beaten down.

Kansas.—Centralia, Nemaha county: a severe hail-storm occurred at this place on the morning of the 12th, causing injury to stock.

Medicine Lodge, Barbour county: during the night of the 18-19th, the severest hail-storm ever known in this section, occurred near the boundary line of Indian Territory. Reports state that many young calves were killed by the hailstones. The storm pursued a northeasterly course.

Montana.—Fort Benton: a heavy rain and hail-storm occurred at this place at 5.30 p. m. of the 17th, causing injury to the grain crop in this vicinity. Some of the hailstones measured one and one-half inches in diameter.

Nebraska.—Clear Creek, Saunders county: a heavy hail-storm occurred at this place on the 20th, the hailstones measuring from one and one-half to one and three-fourths inches in diameter.

Pennsylvania.—Pittsburg: on the evening of the 18th, a severe wind and hail-storm occurred at this place. The hailstones were very large and caused damage to sky-lights and windows. Reports from the southwestern counties state that the storm was very severe, and that barns were unroofed, trees uprooted, and cattle killed. Serious damage was done to railroads by washouts and landslides.

Texas.—Fort Davis: a thunder-storm, accompanied by heavy rain and hail, prevailed at this place from 12.50 to 1.35 p. m., of the 3d, causing much damage to crops.

Utah.—Fillmore City: a violent hail storm occurred at this place on the 16th. The hailstones were of unusual size, and fell with great force, stripping the trees of their foliage, beating down fields of grain, and breaking much window-glass. The ground was covered with hailstones a depth of three inches.

Table of Excessive, Greatest, and Least Monthly Rainfalls.

Station.	Specially heavy.			Largest monthly.	Smallest monthly.	
	Date.	Amt.	Duration.		Station.	Amt.
Alabama.						
Mount Vernon Barracks...	7	3.01		14.24	Fort Thomas...	0.00
Do.....	10	2.99			Maricopa.....	0.00
Do.....	22	2.20			Phoenix.....	0.00
Greenville.....				10.28	San Carlos.....	0.00
Mobile.....	22, 23	2.52		9.43	San Simon.....	0.00
Demopolis.....				7.60	Texas Hill.....	0.00
State Line.....				6.53	Yuma.....	0.00
Auburn.....				6.22	Wickenburg.....	0.00
Arkansas.						
Lead Hill.....	8, 9	3.17		6.24	Casa Grande.....	t'ce
Dakota.						
Deadwood.....	23, 24	3.41		5.26	Fort Apache.....	0.00
Huron.....	17	2.10			Willcox.....	0.00
District of Columbia.						
Washington.....				8.55	Fort Verde.....	0.00
West Washington.....				7.78	Prescott.....	0.00
Distributing Reservoir.....				6.14	Benson.....	0.10
Florida.						
Pensacola.....	10	2.50		9.36	Pantano.....	0.40
Sanford.....	15	2.04		8.57	California.	
Jacksonville.....				7.05	Alta.....	0.00
Live Oak.....				7.95	Anaheim.....	0.00
Saint Augustine.....				6.73	Antioch.....	0.00
Waldo.....				6.24	Auburn.....	0.00
Punta Rassa.....	15	2.88			Borden.....	0.00
Georgia.						
Quitman.....				10.50	Brentwood.....	0.00
Jesup.....				8.72	Brighton.....	0.00
Millen.....				7.12	Byron.....	0.00
Fort Gaines.....				6.31	Caliente.....	0.00
Macon.....				6.07	Calistoga.....	0.00
Forsyth.....	7	2.50			Chico.....	0.00
Illinois.						
McLeansboro.....				9.13	Chualar.....	0.00
Griggsville.....				8.80	Cisco.....	0.00
Centralia.....				8.47	Colfax.....	0.00
Springfield.....	8	2.70		8.40	Colton.....	0.00
Do.....	20, 21	2.34			Davis.....	0.00
Anna.....				8.21	Delano.....	0.00
Mascoutah.....				6.70	Dunnigan.....	0.00
Monmouth.....				6.55	Emigrant Gap.....	0.00
Collinsville.....				6.48	Farmington.....	0.00
Swanwick.....				6.38	Fresno.....	0.00
Golconda.....				6.15	Galt.....	0.00
Calo.....	9, 10	2.95		6.11	Gilroy.....	0.00
Atlanta.....	8	2.80			Goshen.....	0.00
Indian Territory.						
Fort Reno.....				8.00	Hollister.....	0.00
Indiana.						
La Porte.....				9.26	Indio.....	0.00
Bluffton.....				7.78	Ione.....	0.00
Vincennes.....				7.13	Keen.....	0.00
Greenfield.....	24	3.02		6.97	Kingsbury.....	0.00
Princeton.....				6.60	Knight's Landing.....	0.00
Iowa.						
Indianola.....				9.19	Lemoore.....	0.00
Fort Madison.....	20	2.00		8.55	Livermore.....	0.00
Logan.....	2	2.60		8.50	Mammoth Tank.....	0.00
Des Moines.....	17	2.94		7.75	Martinez.....	0.00
Humboldt.....	17	2.17			Marysville.....	0.00
Kansas.						
Fort Leavenworth.....				12.16	Menlo Park.....	0.00
Manhattan.....	23	2.32		9.58	Merced.....	0.00
Holton.....				9.12	Modesto.....	0.00
Clay Centre.....	1, 2	2.01		8.29	Majave.....	0.00
Do.....	24	3.05	4 hours		Newhall.....	0.00
Lawrence.....	11, 12	2.92	6 hours	7.73	Niles.....	0.00
Topeka.....				7.05	Oakland.....	0.00
Milan.....				7.00	Oakwood.....	0.00
Pretty Prairie.....	6, 6	3.75		6.81	Petaluma.....	0.00
Elk Falls.....	6	2.00		6.75	Pleasanton.....	0.00
Do.....	8	2.50			Poway.....	0.00
Levy.....				6.73	Princeton.....	0.00
Salina.....	8	2.01		6.11	Ravenna.....	0.00
Kentucky.						
Frankfort.....				6.40	Red Bluff.....	0.00
Louisiana.						
New Orleans.....	8, 9	3.35		12.05	Rocklin.....	0.00
Franklin.....				10.22	Sacramento.....	0.00
Whiteville.....				9.90	Salinas City.....	0.00
Point Pleasant.....	27, 28	5.62		8.40	San Fernando.....	0.00
Terre Bonne.....				7.03	San Jose.....	0.00
Shreveport.....	5	2.20			San Mateo.....	0.00
Maine.						
Eastport.....	20, 21	2.77			Solidad.....	0.00
Maryland.						
Fallston.....				10.21	South Vallejo.....	0.00
Baltimore.....	26, 27, 28	3.28		8.08	Spadra.....	0.00
McDonough.....	26, 27	2.57		7.49	Summit.....	0.00
Fort McHenry.....				6.45	Sumner.....	0.00
Woodstock.....	26, 27	3.15		6.28	Tehama.....	0.00
Sandy Springs.....	25, 26, 27	2.37		6.28	Telachapi.....	0.00
Cumberland.....	25	2.15			Tennant.....	0.00
Michigan.						
Battle Creek.....	5	2.75		16.24	Tracy.....	0.00
Do.....	8, 9	2.25			Tulare.....	0.00
Do.....	25	4.75			Turlock.....	0.00
Do.....	26, 27	3.00			White Water.....	0.00
Do.....	26, 27	3.14			Woodland.....	0.00
Litchfield.....	25, 26, 27	7.00			Angel Island.....	t'ce
Lansing.....				10.85	San Francisco.....	0.00
Grand Haven.....				9.91	Cape Mendocino.....	0.00
Coldwater.....				9.24	Santa Cruz.....	0.00
Thornville.....				9.16	Orland.....	0.00
Ionia.....				9.14	Los Angeles.....	0.00
				8.49	Pajaro.....	0.00
					San Diego.....	0.00
					Monterey.....	0.10
					Suisun.....	0.20
Connecticut.						
Battle Creek.....	5	2.75		16.24	Southington.....	0.40
Do.....	8, 9	2.25			Idaho.	
Do.....	25	4.75			Lewiston.....	0.00
Do.....	26, 27	3.00			Fort Lapwai.....	0.10
Do.....	26, 27	3.14			Montana.	
Litchfield.....	25, 26, 27	7.00			Fort Assiniboine.....	0.40
Lansing.....				10.85	New Mexico.	
Grand Haven.....				9.91	Fort Bayard.....	0.00
Coldwater.....				9.24	Fort Wingate.....	0.00
Thornville.....				9.16	Deming.....	0.00
Ionia.....				9.14		
				8.49		

Table of Excessive, Greatest, and Least Monthly Rainfalls.—Continued.

Station.	Specially heavy.			Largest monthly.	Smallest monthly.	
	Date.	Amt.	Duration.	Amount.	Station.	Amt.
Michigan—Continued.						
Mendon.....	25	2.25		7.38	New Mexico.—Cont'd.	
Do.....	27	2.25			Fort Union.....	0.28
East Tawas.....				6.05	Nevada.	
Minnesota.						
Saint Paul.....				7.04	Beowawe.....	0.00
Minneapolis.....	17	2.32		6.59	Boca.....	0.00
Mississippi.						
Pass Christian.....				12.72	Carlin.....	0.00
Scranton.....				9.50	Elko.....	0.00
Lake.....				6.61	Hot Springs.....	0.00
Brookhaven.....				6.41	Otego.....	0.00
Missouri.						
Phelps City.....				17.60	Reno.....	0.00
Oregon.....				14.94	Tecoma.....	0.00
Bedford.....	16	2.25		11.65	Truckee.....	0.00
Miami.....				11.45	Wadsworth.....	0.00
Lexington.....				10.72	Wells.....	0.00
Louisiana.....				9.75	Brown's.....	0.01
Hannibal.....				9.70	Carson City.....	0.13
Macou.....				9.56	Palisade.....	0.15
Savannah.....				9.32	Humboldt.....	0.22
Pleasant Hill.....				8.90	Battle Mountain.....	0.23
Curryville.....	16	3.42		8.13	Fort McDermitt.....	0.24
Sedalia.....				7.63	Golconda.....	0.40
Ironton.....				6.90	Oregon.	
Mexico.....				6.59	Roseburg.....	0.01
Centerville.....				6.45	Eola.....	0.05
Bolivar.....				6.40	Portland.....	0.08
Shebina.....				6.30	Albany.....	0.22
Nebraska.						
Table Rock.....	2	2.25		17.02	Texas.	
Do.....	11	2.50			El Paso.....	0.04
Do.....	15	2.12			Utah.	
Do.....	17	4.75			Blue Creek.....	0.00
Do.....	23	2.25			Kelton.....	0.00
Do.....	24	2.19			Promontory.....	0.00
Nebraska City.....	1, 2	2.04		16.27	Ogden.....	0.10
Do.....	15	2.22			Nephi.....	0.10
Do.....	17	2.95			Terrace.....	0.20
Do.....	22, 23	2.54			Corrinne.....	0.33
Johnson.....	15	2.00		16.20	Salt Lake City.....	0.33
Do.....	17	4.50			Washington.	
Do.....	23	3.60			Fort Canby.....	t'ce
Peru.....	15	2.25		13.72	Fort Spokane.....	0.05
Do.....	16, 17	4.75			Bainbridge Island.....	0.12
Stella.....	1, 2	2.23		13.26	Fort Townsend.....	0.32
Do.....	15	2.00			Wyoming.	
Do.....	17	2.85			Fort Bridger.....	0.01
Omaha.....	1, 2	3.51		10.84		
Do.....	22, 23	2.89				
Stockham.....	15	2.80		10.30		
Clear Creek.....				8.50		
North Platte.....	3, 4	2.96		7.49		
Do.....	16, 17	2.35				
Fremont.....				6.18		
New Brunswick.						
Chatham.....				6.00		
New Hampshire.						
Mount Washington.....	11, 12, 13	4.88		11.30		
Do.....	20	2.30				
Woodstock.....	17, 18, 19	5.00		7.43		
Ashland.....	19	2.14		6.38		
New Jersey.						
Bordentown.....	19	5.81		8.48		
Caldwell.....	28	2.00		7.12		
Freehold.....	19	2.01		6.91		
Do.....	27	2.25				
South Orange.....	26, 27	2.30				
Paterson.....	27, 28	2.16				
Newark.....	27	2.00				
New York.						
Factoryville.....				7.31		
Penn Yan.....				6.90		
Albany.....	5, 6	2.95	7 hours	6.30		
Hector.....	2	2.30		6.10		
Do.....	26, 27	2.00				
Mountainville.....	27, 28	2.01				
North Carolina.						
Salisbury.....				11.09		
Portsmouth.....	2	5.20		11.09		
Fort Macon.....	2, 3	5.66		10.89		
Wilmington.....	2	5.22	8 hours	10.84		
Sleep Point.....	2	3.42		9.71		
Highlands.....	12, 13	3.00		7.60		
Smithville.....	2	2.76		6.95		
Weldon.....				6.73		
Kittyhawk.....				6.57		
New River Inlet.....	2	2.40		6.37		
Brevard.....				6.29		
Ohio.						
Lebanon.....				7.28		
Warren.....				7.28		
Wyandot.....				6.21		
Upper Sandusky.....				6.21		
Champaign.....				6.20		
North Lewisburg.....				6.20		
Ontario.						
Rockliffe.....				6.05		
Pennsylvania.						
Wellsborough.....				9.26		
Wilkesbarre.....	26, 27, 28	4.65		8.52		
Catawissa.....	6	2.44		8.07		
Do.....	26, 27	3.36				
Franklin.....				7.07		
State College.....				6.24		

Table of Excessive, Greatest, and Least Monthly Rainfalls.—Continued.

Station.	Specially heavy.			Largest monthly.	Smallest monthly.	
	Date.	Amt.	Duration.	Amount.	Station.	Amt.
<i>Pennsylvania.—Continued.</i>						
Grampian Hills.....				6.17		
Blooming Grove.....	26, 27	4.30		6.10		
Dyberry.....	18	2.20				
Do.....	26, 27, 28	3.00				
Easton.....	26, 27	2.25				
West Chester.....	27	2.23				
<i>South Carolina.</i>						
Allendale.....				11.33		
Georges.....				8.63		
Cheraw.....				7.54		
Columbia.....				6.18		
<i>Tennessee.</i>						
Near Alexandria.....				8.32		
Murfreesborough.....				7.56		
Hardison's Mills.....				7.52		
Florence Station.....				7.08		
Austin.....	10	2.25		6.82		
Biddleton.....				6.82		
Manchester.....				6.52		
Brownsville.....				6.43		
Flat Creek.....				6.34		
Grand Junction.....				6.21		
Pulaski.....				6.08		
Savannah.....				6.08		
Howell.....				6.03		
Memphis.....	22	2.16				
<i>Texas.</i>						
Sour Lake.....				7.59		
Houston.....				7.32		
Rio Grande City.....	27	3.00		6.82		
Palestine.....	3	3.68	3 h. 14 m.	6.33		
<i>Virginia.</i>						
Marion.....				7.05		
Norfolk.....	13, 14	3.77		6.52		
Cape Henry.....	13, 14	3.52		6.14		
Wytheville.....	10	3.00				
<i>West Virginia.</i>						
Helvetia.....				6.55		
<i>Wisconsin.</i>						
Madison.....	2, 3	3.35		7.59		
Columbus.....				6.14		
Ripon.....	11	2.08				
Franklin.....	11	2.00				

Hail-storms of less violence have occurred in the various states and territories as follows:

Colorado.—West Las Animas, 3d; Fort Collins, 15th; Pike's Peak, 24th; Fort Lewis, 30th.

Dakota.—Bismarck, 4th; Fort Yates, 4th; Huron, 15th; Fort Sully, 17th; Fort Meade, 21st.

Delaware.—Delaware Breakwater, 19th.

Georgia.—Augusta, 14th.

Illinois.—Anna, 10th; Collinsville, 15th.

Indiana.—Wabash, 6th, 17th; Indianapolis, 10th; Vevay, 12th; Griffin Station, 16th.

Iowa.—Guttenburg, 11th; Indianola, 11th; Fort Madison, 15th; Independence, 16th.

Kansas.—Wellington, 5th; Salina, 5th, 12th, 24th; Yates Centre, 23d; Clay Centre, 23d.

Maryland.—Fallston, 10th.

Massachusetts.—Dudley, 6th, 7th; Somerset 13th.

Michigan.—Litchfield, 2d.

Minnesota.—Moorehead, 5th; Saint Paul, 7th.

Missouri.—Saint Louis, 15th; Curryville, 16th.

Montana.—Billings, 4th; Fort Ellis, 11th.

Nebraska.—Johnson, 1st; Table Rock, 1st; Stella, 1st; North Platte, 1st, 16th; Red Willow, 7th, 16th, 17th; De Soto, 15th; Freemont, 15th; Clear Creek, 15th, 20th; Omaha, 15th, 20th; Genoa, 15th, 22d, 23d, 24th.

Nevada.—Pioche, 15th.

New Jersey.—Bordentown, 19th; Moorestown, 29th.

New York.—Kiantone, 18th.

North Carolina.—Weldon, 18th.

Ohio.—Westerville, 6th, 17th; Wauseon, 17th.

Pennsylvania.—Chambersburg, Philadelphia, 19th.

Wisconsin.—Beloit, 11th; La Crosse, 11th; Madison, 16th; Sussex, 16th; Manitowoc, 16th, 23d.

Wyoming.—Fort Washakie, 7th, 8th.

SNOW.

Snow has been reported by the following stations:

Fort Garland, Colorado, 8th: snow fell to a depth one and one-half inches.

Pike's Peak, Colorado, 2d, 3d, 5th, 8th, 9th, 11th, 12th, 16th, 17th, 25th.

Cheyenne, Wyoming, 8th.

Denver, Colorado: a heavy snow-storm prevailed throughout this part of the state on the 8th, which is a most unusual occurrence at this season of the year. The following stations in Colorado report the following concerning this storm:

Central City: snowing steadily since 7 a. m.

Black Hawk: snowing hard all day.

Georgetown: snowing all day; two inches on the ground.

Leadville: snowing all day.

Texas Creek: snowing and cold.

Alamosa: snowed for one hour during the afternoon.

Salida: snowed hard during the day and night.

SLEET.

Sleet was reported on the summit of Pike's Peak, Colorado, on the 24th and 29th.

Table of rainy and cloudy days, relative humidity, and dew-point for June, 1883.

Districts.	Rainy days.	Cloudy days.	Rel. humidity. *	Dew-point.
			Percentages.	°
New England.....	From 8 to 15	From 2 to 8	From 70.5 to 89.2	From 49.3 to 61.0
Middle Atlantic states.....	" 9 " 17	" 1 " 6	" 63.9 " 85.0	" 55.4 " 69.0
South Atlantic states.....	" 10 " 19	" 3 " 11	" 64.9 " 85.4	" 63.3 " 72.2
Florida peninsula.....	" 10 " 23	" 2 " 18	" 72.6 " 78.7	" 72.8 " 73.9
East Gulf.....	" 16 " 21	" 2 " 8	" 72.6 " 81.4	" 68.5 " 73.6
West Gulf.....	" 9 " 13	" 1 " 10	" 71.7 " 80.0	" 67.2 " 74.9
Ohio valley.....	" 17 " 20	" 4 " 11	" 66.5 " 73.9	" 58.2 " 64.2
Tennessee.....	" 12 " 16	" 2 " 5	" 71.6 " 74.0	" 63.7 " 68.6
Lower lakes.....	" 12 " 19	" 6 " 11	" 69.0 " 75.2	" 55.4 " 58.9
Upper lakes.....	" 14 " 21	" 3 " 13	" 69.6 " 77.8	" 46.1 " 55.3
Extreme northwest.....	" 7 " 14	" 4 " 6	" 67.6 " 72.1	" 50.3 " 53.0
Upper Mississippi valley.....	" 10 " 19	" 7 " 12	" 62.0 " 74.0	" 53.8 " 60.3
Missouri valley.....	" 10 " 16	" 1 " 7	" 68.7 " 72.0	" 54.2 " 60.9
Northern slope.....	" 9 " 17	" 1 " 8	" 46.5 " 71.5	" 36.1 " 56.0
Middle slope.....	" 7 " 15	" 2 " 6	" 50.6 " 70.2	" 44.7 " 58.9
Southern slope.....	" 4 " 9	" 0 " 6	" 42.4 " 62.5	" 47.5 " 63.8
Southern plateau.....	" 0 " 2	none	" 23.9 " 34.2	" 31.4 " 42.1
Northern plateau.....	" 2 " 9	From 2 " 6	" 44.8 " 70.9	" 32.7 " 47.9
North Pacific.....	" 2 " 3	" 3 " 4	" 55.6 " 62.2	" 46.0 " 48.9
Middle Pacific.....	" 0 " 2	" 0 " 5	" 36.8 " 81.9	" 47.9 " 56.4
South Pacific.....	" 0 " 3	" 0 " 3	" 51.6 " 75.8	" 58.2 " 65.1
Mt. Washington, N. H.....	Seventeen	Three	90.0	43.6
Pike's Peak Col.....	Eleven	Three	81.4	25.9
Salt Lake City, Utah.....	Five	Three	31.7	37.3

* Relative humidity corrected for altitude.

COTTON REGION REPORTS.

Temperature and rainfall observations in the cotton districts were continued during the month of June, 1883. The averages for the various districts, as determined from the observations made by the stations published in the REVIEW for April, 1882, are given in table below.

Meteorological Record of the Cotton Districts for the month of June, 1883.

Districts.	Average rainfall in inches.	Temperature.		Extremes.	
		Mean of the maxima.	Mean of the minima.	Highest.	Lowest.
New Orleans.....	8.65	90.2	71.7	103	45
Savannah.....	5.93	91.1	71.3	104	58
Charleston.....	4.77	90.4	68.9	100	55
Atlanta.....	2.88	88.8	66.8	101	48
Wilmington.....	7.30	88.8	66.5	101	49
Memphis.....	4.52	89.2	67.1	99	48
Galveston.....	3.48	93.1	72.6	103	60
Vicksburg.....	5.43	90.7	70.2	98	58
Montgomery.....	5.03	89.3	69.4	102	50
Augusta.....	5.25	90.3	69.0	102	51
Little Rock.....	3.52	90.0	67.2	99.5	46
Mobile.....	4.54	92.5	69.5	104	53

WINDS.

The prevailing directions of the wind for the month of June, 1883, are shown on chart iii. by arrows flying with the wind. In the Southern states, Ohio valley, lower lake region, and along the Atlantic coast the prevailing winds are from the south and southwest; in the upper Mississippi and Missouri valleys they are from the north and northwest; in the northern slope they are from the west and southwest; in the north Pacific coast region, from northwest, and on the California coast they are westerly.